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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,900	09/30/2003	Carlos M.D. Pazos	109822-96 02CXT0079D	8081

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PROCOPIO, CORY, HARGREAVES & SAVITCH LLP  
530 B STREET  
SUITE 2100  
SAN DIEGO, CA 92101

EXAMINER
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NGUYEN, HANH N

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/05/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/05/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@procopio.com  
PTONotifications@procopio.com

## Office Action Summary

Application No.

10/676,900

Applicant(s)

PAZOS, CARLOS M.D.

Examiner

Hanh Nguyen

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on Application filed on 9/30/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/26/04.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 7 and 9 are rejected under 35 USC 102(b) as being anticipated by Lakshman et al. ( US Pat. 6,078,564).

In claims 1 and 7, Lakshman et al. discloses a method for transmission control protocol (TCP) acceleration, comprising receiving an incoming acknowledgement packet belonging to a TCP session (see fig.4; col.6, lines 25-34; receive a new ACK packet at queue 43); searching an upstream queue for queued acknowledgment packets belonging to the same TCP session (see fig.2, col.4, line 55 to col.5, line 5; classifier 200 keeps track of existing connections, assigns respective queues 151-151n to each connection, and keeps track of ACKs between particular source and destinations); and replacing one of the queued acknowledgment packets with the incoming acknowledgment packet in the position in the upstream queue occupied by the oldest of the queued acknowledgment packets ( see abstract and col.6, lines 30-35 and col.3, lines 18-24; queue manager 160 replaces a later received ACK packet with one previously received ACK packet stored in a particular connection queue such as the oldest ACK packet in the queue is discarded) if the incoming acknowledgment packet is not a duplicate of the queued acknowledgment packet (as shown in background of the invention, col.1, lines 40-46; in TCP/IP, if a destination receives correctly packets up to sequence N, then the next data packet the

destination expects to receive is packet N+1; and the sequence number of the next expected data packet is included in the ACK packet ). This inherently indicates that the new ack packet used in TCP/IP is in sequenced with previous ack packets.

In claims 3 and 9, Lakshman et al. discloses dropping any remaining queued acknowledgment packets in the upstream queue after the oldest queued acknowledgement packet has been replaced by the incoming acknowledgement packet (see col.5, lines 26-32; queue manager 160 always keeps the last received packet in a queue under any circumstances and drops any older packet from the queue).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 8 are rejected under 35 USC 103(a) as being unpatentable over Lakshman et al. ( US Pat. 6,078,564) in view of Packer ( US pat. 6,741,563 B2).

In claims 2 and 8, Lakshman et al. does not disclose the acknowledgment number field of the incoming acknowledgment packet is greater than the acknowledgment number field of the oldest queued acknowledgment packet. Packer discloses in fig.2A, step 218, the ack sequence is determined to be greater than last ack sequence ( see col.5, lines 55-60). Therefore, it would have been obvious to use the teaching of packer into Lakshman in order to determine whether the ack

sequence number of a new ack packet is greater or smaller than the last ack sequence number.

The advantage is to determine out-of-sequence ack packets such as duplicated packets.

Claims 5, 6, 11 and 12 are rejected under 35 USC 103(a) as being unpatentable over Lakshman et al. ( US Pat. 6,078,564) in view of Li et al.( US pat. 6,741,555 B1).

In claims 5, 6, 11 and 12, Lakshman et al. does not disclose queued acknowledgment packets that are explicit congestion notification (ECN) marked packets are not considered for dropping. Li et al. discloses, in fig.2, destination node 220 that attaches an ECN-echo flag into an ACK packet in response to receiving an CE bit indicating a congestion is about to happen (see col.9, lines 10-15). Further, in claims 6 and 12, Li et al. further discloses selective ack packets are considered for dropping ( see col.10, lines 8-15; in selective ACK, TCP is sensitive to the loss of packets and reduces its sending speed). Therefore, it would have been obvious to use the teaching of packer into Lakshman in order to keep the ECN ack packets for control data congestions and drop selective ACK packets when the ack packets are transmitted in wireless network via infra links since when the ACK packets are loss, the TCP mistakenly assumes that the network is congested and reduces its transmission of old and new ack packets.

Claims 4 and 10 are rejected under 35 USC 103(a) as being unpatentable over Lakshman et al. ( US Pat. 6,078,564) in view of Kidambi et al.( US pat. 6,424,626 B1).

In claims 4 and 10, Lakshman et al. does not a drop count of the oldest queued acknowledgment packet has not yet exceeded a configurable drop threshold value. Kidami disclose when an ACK packet is discarded, an ack drop counter is incremented and updated ( col.6, lines 60-67) and the number of ACK packets being dropped is indicated by the ACK drop counter ( see col.7, lines 10-14). Therefore, it would have been obvious to configure in the ack

drop counter a drop threshold value so that if the ACK packet is dropped more than the threshold value, then the ack packet is remained in the ack queue. This prevents "the stretch ACK" and burstiness at the source transmitting packets.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Nguyen ( US pat. 6,680,906 B1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The examiner can normally be reached on Monday-Thursday from 8:30 to 4:30PM. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Field , can be reached on 571 272 2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh Nguyen

  
**HANH NGUYEN**  
**PRIMARY EXAMINER**